Textile Products Division OFFICE OF POLLUTION CIBA-GEIGY Corporation REVENTION AND TOXICS P.O. Box 18300

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CIBA—GEIGY

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September 4, 1992



Document Processing Center (TS-790) Office of Toxic Substances Environmental Protection Agency 401 M. Street, SW Washington, DC 20460

Attention: Section 8(e) Coordinator (CAP Agreement)

RE: 8E CAP - 0024

Dear Section 8(e) Coordinator:

Enclosed are the original and two copies of a study CIBA-GEIGY Corporation is submitting pursuant to the TSCA Section 8(e) Compliance Audit Program and CAP Agreement number 8E CAP-0024. We are submitting the following information, as required by the CAP Agreement:

Company Name: CIBA-GEIGY Corporation

444 Saw Mill River Road

Ardsley, New York 10502-2699

Attention: Mr. Anthony Di Battista

Manager, Regulatory Affairs & Toxic Substances

Compliance

Telephone (914) 479-2776

Tested Chemical:

Benzenesulfonic acid, 2,2'-{(9,10-dihydro-9,10-dioxo-1,4-anthracenediyl)diimino}bis{5-methyl-, diammonium salt

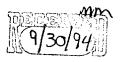
also identified as: Erionyl Green GN L
Alizarine Green GNN

CAS No.: 67970-27-8

Report Title: Eye Irritation in Rabbits (Project Number: MB 79-3723 D, dated 7/13/79)

Summary: The test material was placed into the conjunctival sac of one eye of each of six rabbits. Scores for ocular irritation were recorded at 1 hour and on days 1, 2, 3, 7, 14, and 21 according the the method of Kay and Calandra. Positive corneal, iridal, and conjunctival scores were noted in all animals. On





day 14, corneal scores were present in 3/6, iridal scores in 0/6 and positive conjuctival scores in 3/6 treated eyes. This study is being submitted based on potential severe eye irritation and on potential human exposure.

Category: Unit II.B.2.b

Prior Reporting: Not Applicable

Please call the undersigned at telephone number (919) 632-2889 if you have any questions about this submittal.

Very Truly Yours,

Joseph A. LoMenzo, Ph.D.

Product Stewardship Director Textile Products Division

Enclosures

2 copies of this letter

3 copies of the study

cc: A. Di Battista

MB Research Laboratories, Inc. SCHULZE JAN 4 1980

steinsburg and wentz roads post office box 203

spinnerstown, pennsylvania 18968

: 5/15/79

5/29/79

215-536-4110

Test started

Test ended

TEST FOR EYE IRRITATION IN RABBITS

FOR: TOMS RIVER CHEMICAL CORPORATION

Project number: MB 79-3723 D

Objective : To identify ocular irritation

potential

Erionyl Green GN L 44/134602/160/0

MATERIALS

Sample label : Alizarine Green GNN

Concentration: 100%
Mix number: 291
TR number: 1015 00

Description : Green Powder

Sample received: 5/03/79

Severe eye irritation

ANIMALS

Supplier(s) : Nicholas Helf

Perfection Breeders

Ace Animals

Sex : 2 Males 4 Females

New Zealand White rabbits, at least 8 weeks old when received, were equilibrated for at least one week in this laboratory. Twenty-four hours pretest, the cornea of each animal was examined with fluorescein and cobalt blue light. Six apparently healthy rabbits, free from evidence of ocular irritation or damage, were selected for the test.

The animals were identified by cage tags noting the test material, starting date, animal number and sex.

The animals were housed 1/cage in suspended wire mesh cages (30" x 18" x 18"). Any extraneous material which might produce eye irritation was excluded from the area. Fresh Purina rabbit chow and water were freely available. The animal room, reserved exclusively for rabbits on acute tests, was maintained at $20 - 21^{\circ}\text{C}$ and was kept clean in accordance with the standards of AAALAC of which this laboratory is an approved member.

METHODS

<u>Treatment</u> - The test material (0.1 ml or 0.1 g) was placed once into the conjunctival sac of one eye of each of six rabbits. The lids were held together briefly to insure adequate distribution of the test material. The untreated eye of each rabbit served as a control.

Observations - The general health of the rabbits was monitored during the observation period. The ocular reactions of the cornea, iris, and conjunctiva were graded at 1 hour and at 1, 2, and 3 days after dosing. If any score was



TEST FOR EYE IRRITATION IN RABBITS

Project #: MB 79-3723 D

Page -2-

Sample # : 1015-00

noted on Day 3, the eyes were read again on Day 7. If any score was noted on Day 7, the eyes were read again on Day 14. Fluorescein and cobalt blue light were used in scoring ocular reactions on Days 1 and 3 and on Days 7 and 14, if necessary. The eyes were graded by the Draize scoring system (attached). The scores were interpreted by the method of Kay and Calandra (attached).

RESULTS

MEAN SCORES:

HOUR			DAYS			
1_	1	2	3	7	14	
25.3	31.7	34.0	35.2	21.7	11.3	

CONCLUSION

The test material is severely irritating.

SUMMARY OF DATA

Positive corneal, iridal and conjunctival scores were noted in all animals. On Day 14, corneal scores were present in 3/6, iridal scores in 0/6 and positive conjunctival scores in 3/6.

Respectfully submitted,

scar M. More Oscar M. Moreno, Ph.D.

ary Jeresa Th

ance &/Dates of Inspection

Submitted: 7/13/79

The raw data is filed at MB Research by project number. The final report is filed by sponsor name and project number.

TEST FOR	R EYE IRRITATION IN RABBITS	.		-		MB 79	9-3723 D -00
An.No. I	tem Tissue Reading	Hour 1	1	2	Da 3	ay 7	14
	A Cornea Opacity B Area 1. Cornea Total = (AxB) x 5	a 2 10	4 1 20	3 1 15	3 1 15	0 0 0	0 0 0
	C Iris 2. Iris Total = C x 5	a	1 5	1 5	1 5	1 5	0 0
	D Conjunctiva Redness E Chemosis F Discharge 3. Conjunctiva Total = (D+E+F) x 2	a 3 3 12	a 3 3 12	2 3 3 16	3 ^c 3 2 16	2 2 1 10	1 1 0 4
	Totals added = $1 + 2 + 3$	22	37	36	36	15	4
	UV Fluorescein scan		3	-	1	1	0
	A Cornea Opacity B Area 1. Cornea Total = (AxB) x 5	a 3 15	2 1 10	2 1 10	3 1 15	0 0 0	0 0 0
	C Iris 2. Iris Total = C x 5	a	1 5	1 5	1 5	0 0	0 0
	D Conjunctiva Redness E Chemosis F Discharge 3. Conjunctiva Total = (D+E+F) x 2	a 3 3 12	2 ^a 3 3 16	2 ^a 3 3 16	3 2 2 14	1 1 1 6	0 0 0 0
	Totals added = $1 + 2 + 3$	27	31	31	34	6	0
!	UV fluorescein scan		3		1	0	0
	A Cornea Opacity V B Area 1. Cornea Total = (AxB) x 5	a 2 10	4 1 20	4 1 20	4 1 20	3 1 15	3 1 15
,	C Iris 2. Iris Total = C x 5	a	a	a	1 5	1 5	0 0
	D Conjunctiva Redness E Chemosis F Discharge 3. Conjunctiva Total = (D+E+F) x 2	a 3 3 12	a 3 3 12	3 ^a 3 3 18	3 2 2 14	2 2 1 10	1 2 1 8
	Totals added = $1 + 2 + 3$	22	32	38	39	30	23
I	UV fluorescein scan		3	-	1	1	1

a = stained by material c = material adhering to conjunctiva V = vocalization post dose

TEST FOR EYE IRRITATION IN RABBITS Project #: MB 79-3723 D Page -4-Sample #: 1015-00 An.No. Item Tissue Reading Hour Day Α Cornea Opacity 0 a 4. В Area Cornea Total = $(AxB) \times 5$ C Iris a a a 2. Iris Total = $C \times 5$ Conjunctiva D Redness a a a Chemosis Ε F Discharge Conjunctiva Total = $(D+E+F) \times 2$ Totals added = 1 + 2 + 3UV Fluorescein scan Opacity 0 Α Cornea a В Area Cornea Total = $(AxB) \times 5$ C Iris 2. Iris Total = $C \times 5$ Conjunctiva Redness 2^a a Ε Chemosis F Discharge Conjunctiva Total = $(D+E+F) \times 2$.16 Totals added = 1 + 2 + 3UV fluorescein scan Cornea Α Opacity a В Area 1. Cornea Total = $(AxB) \times 5$ C Iris a a a Iris Total = $C \times 5$ 2^a D Conjunctiva Redness 3^a a a Ε Chemosis F Discharge Conjunctiva Total = $(D+E+F) \times 2$ Totals added = 1 + 2 + 3UV fluorescein scan

a = stained by material

SCALE OF SCORES FOR GRADING THE SEVERITY OF OCULAR LESIONS*

•		
OCULAR TISSUE	DESCRIPTION	GRADING
CORNEA	A. OPACITY - Degree of Density - Area which is most dense is read Scattered or diffuse area, details of iris clearly visible Easily descernible translucent areas, details of iris slightly obscured Opalescent areas, no details of iris visible, size of pupil barely discernible Opaque, iris invisible	1 ' 2 3 4
	B. AREA OF CORNEA INVOLVED One quarter or less but not zero Greater than one quarter but less than one half Greater than one half but less than three quarters Greater than three quarters, up to whole area	. 1 2 3 4
	SCORE: A x B x 5 Total Maximum = 80	
IRIS	 A. YALUES Folds above normal, congestion, swelling, circumcorneal injection (any or all or or a combination of any thereof), iris still reacting to light (sluggish rea is positive) No reaction to light, hemorrhage, gross destruction (any or all of these) 	these action 1 2
	SCORE: A x 5 Total Maximum = 10	
CONJUNCTIVA	A. REDNESS (refers to palpebral conjunctiva only excluding cornea and iris) Vessels definitely injected above normal More diffuse, deeper crimson red, individual vessels not easily discernible Diffuse beefy red	1 2 3
	B. CHEMOSIS Any swelling above normal (includes nictitating membrane) Obvious swelling with partial eversion of the lids Swelling with lids about half-closed Swelling with lids about half-closed to completely closed	1 2 3 4
	C. DISCHARGE Any amount different from normal (does not include small amount observed in inner canthus of normal animals) Discharge with moistening of the lids and hairs just adjacent to the lids Discharge with moistening of the lids and hairs and considerable area around eye	1 2 3
	SCORE: (A + B + C) x 2 Total Maximum = 20	

*Draize, John H. Dermal Toxicity, "Appraisal of the Safety of Chemicals in Foods, Drugs and Cosmetics", ASSOCIATION OF FOOD AND DRUG OFFICIALS OF THE U.S., 1959, pp 49-51

RATING OF TEST MATERIALS BASED ON EYE IRRITATION PROPERTIES*

RATING	RANGE	DEFINITION
Non-irritating	0 - 0.5	To maintain this rating all scores at the 24 hour reading must be zero; otherwise, increase rating 1 level.
Practically Non-irritating	Greater than 0.5 - 2.5	To maintain this rating, all scores at the 24 hour reading must be zero; otherwise, increase rating l level.
Minimally Irritating	Greater than 2.5 - 15.0	To maintain this rating, all scores at the 72 hour reading must be zero; otherwise, increase rating 1 level.
Mildly Irritating	Greater than 15.0 - 25.0	To maintain this rating, all scores at the 7 day reading must be zero; otherwise, increase rating 1 level.
Moderately Irritating	Greater than 25.0 - 50.0	To maintain this rating, scores at 7 days must be less than or equal to 10 for 60% or more of the animals. Also, mean 7 day score must be less than or equal to 20. If 7 day mean score is less than or equal to 20 but less than 60% of the animals show scores less than 10, then no animal among those showing scores greater than 10 can exceed a score of 30 if rating is to be maintained; otherwise, increase rating 1 level.
Severely Irritating	Greater than 50.0 - 80.0	To maintain this rating, scores at 7 days must be less than or equal to 30 for 60% or more of the animals. Also, mean 7 day scores must be less than or equal to 40. If 7 day mean score is less than or equal to 40 but less than 60% of the animals show scores less than or equal to 30, then no animal among those showing scores greater than 30 can exceed a score of 60 if rating is to be maintained; otherwise, increase rating 1 level.
Extremely Irritating	Greater than 80.0 -110.0	

^{*}Kay, J.H., Calandra, J.C., J. Soc. Cos. Chem., 13:281 - 289, 1962.

SCALE OF SCORES FOR ULTRAVIOLET FLUORESCEIN SCAN

Reading Negative	Grade O
Positive with an area one quarter or less	ĭ
Positive with an area greater than one quarter but less than one half	2
Positive with an area greater than one half but less than three quarters	3
Positive with an area greater than three quarters, up to whole area	4



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

Joseph A. LoMenzo, Ph.D.
Product Stewardship Director
Textile Products Division
CIBA-GEIGY Corporation
P.O. Box 18300
Greensboro, North Carolina 27419-8300

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

DEC 2 7 1994

EPA acknowledges the receipt of information submitted by your organization under Section 8(e) of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA §8(e) Document Control Number (e.g., 8EHQ-00-0000) assigned by EPA to your submission(s). Please cite the assigned 8(e) number when submitting follow-up or supplemental information and refer to the reverse side of this page for "EPA Information Requests".

All TSCA 8(e) submissions are placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA §8(e) policy statement (43 FR 1110, March 16, 1978). Confidential submissions received pursuant to the TSCA §8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims. This information is required and should be submitted if not done so previously. To substantiate claims, submit responses to the questions in the enclosure "Support Information for Confidentiality Claims". This same enclosure is used to support confidentiality claims for non-CAP submissions.

Please address any further correspondence with the Agency related to this TSCA 8(e) submission to:

Document Processing Center (7407)
Attn: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

EPA looks forward to continued cooperation with your organization in its ongoing efforts to evaluate and manage potential risks posed by chemicals to health and the environment.

 $\mathcal{T}_{\mathcal{I}}$

Enclosure

12133 A

Terry R. O'Bryan Risk Analysis Branch

Sincerely,

Recycled/Recyclable
Printed with Soy/Canola ink on paper that
contains at least 50% recycled fiber

Triage of 8(e) Submissions

Date sent to triage:	AUG 2 2 198	95	NC	ON-CAP	CAP	
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Group 3 - Elizabeth	Margosches (1 c	opy each)				
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> < COMMENT>

EYE IRRITATION IN MALE AND FEMALE NEW ZEALAND WHITE RABBITS IS OF HIGH CONCERN. SINGLE INSTILLATIONS OF 0.1 ML OR 0.1 G INTO RIGHT-EYE CONJUNCTIVAL SACS ONLY OF 6 RABBITS WERE ASSOCIATED WITH SIGNS OF SEVERE IRRITATION THAT WAS UNABATED IN 5/6 ANIMALS UPON 14TH DAY TERMINAL OBSERVATION. SIGNS OF IRRITATION WERE MAXIMAL (MEAN DRAIZE SCORE = 35.2) AT DAY 3 OF 14-DAY OBSERVATION AND WERE CHARACTERIZED BY MODERATE TO SEVERE CONJUNCTIVITIS (6/6), MODERATE TO SEVERE FOCAL OPACITY OF THE CORNEA (6/6) AND NON-CORROSIVE IRITIS (5/6). FINAL 14TH DAY OBSERVATION FOUND UNRESOLVED SIGNS OF IRRITATION IN 5/6 ANIMALS INCLUDING PERSISTING CORNEA OPACITY (3/6).

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